CLAIMS

1. Wooden element, characterised in that it comprises at least one portion of one of its inside and/or outside surface consisting of at least one synthetic resin having a transformation process that changes between the initial step and the final step of realisation of said wooden element.

2. Wooden element according to claim 1, characterised in that said portion consists of a synthetic resin-based composite material exhibiting a transformation process that changes between the initial step and the final step of realisation of said wooden element.

3. Wooden element according to claim 1, characterised in that said synthetic resin in said initial step is a thermoplastic phenolic resin and in said final step is a thermosetting phenolic resin.

4. Wooden element according to one or more of the previous claims, characterised in that said phenolic resin is in the form of a film.

5. Wooden element according to one or more of the previous claims, characterised in that said composite material is in the form of a composite or pre-composite plate-shaped element.

6. Wooden element according to one or more of the previous claims, characterised in that said composite material is in the form of a staff-shaped element for its fixing and/or stiffening.

7. Wooden element according to one or more of the previous

claims, characterised in that said film comprises a sheet containing unidirectional fibres.

8. Wooden element according to one or more of the previous claims, characterised in that said film comprises fibres oriented according to different axes and is a derivative of a felt fabric, and/or a sewn felt and/or a felt with cut thread, and/or a spunbonded fabric.

9. Wooden element according to one or more of the previous claims, characterised in that it is a composite wooden product comprising a phenolic-based adhesive.

10. Wooden element according to one or more of the previous claims, characterised in that it is a stratified laminated wood.

11. Method for the manufacture of a wooden element, characterised in that it consists in associating, inside or outside the wooden element, at least one thermoplastic phenolic resin-based composite material, melting said resin at a predetermined temperature for obtaining a perfect penetration of said resin into the protuberances of said wooden element, and transforming said thermoplastic phenolic resin into a thermosetting phenolic resin.

12. Method for the manufacture of a wooden element according to claim 11, characterised in that a thermosetting composite is applied onto said thermoplastic phenolic resin coating.

13. Method for the manufacture of a wooden element according to one or more of the previous claims, characterised in that said phenolic resin-based composite material is obtained by

pultrusion, avoiding the final hardening step of the phenolic resin, so that the latter remains partly or totally thermoplastic, then melting said partly or totally thermoplastic resin in the association process to said wood, for a intimate connection without using adhesives, then transforming said thermoplastic phenolic resin into a thermosetting phenolic resin.

14. Method for the manufacture of a wooden element according to one or more of the previous claims, characterised in that before or during its application on said wooden element, said composite material is thermo-formed and shaped.

15. Method for the manufacture of a wooden element according to one or more of the previous claims, characterised in that the thermo-forming process occurs at a sufficiently high temperature to soften the thermoplastic resin, but sufficiently low to prevent the onset of the crosslinking reaction.

16. Method for the manufacture of a wooden element according to one or more of the previous claims, characterised in that said composite material is in the form of a plate-shaped element.

17. Method for the manufacture of a wooden element according to one or more of the previous claims, characterised in that said composite coating is in the form of a staff.

18. Use of a thermoplastic phenolic resin to associate to a wooden element with final effect of thermosetting resin, consisting of a laminated wood with unidirectional vein

(LVL), or a laminated wood with vein at 90° between each layer (Plywood), or wood pieces glued under pressure (Glulam), or parallel wooden slabs (PSL), or having a specific orientation (OSB), and similar ones.